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ANIMAL VOLUNTEERS.

In the course of duty, I have several times a day to pass a cavalry barrack gates, with an entrance to the hospital on the opposite side of the road. Not long since, I observed a rather handsome-looking shaggy terrier standing beside the sentry who was posted at the gate of the latter. At the first glance, one might have concluded that the animal belonged to the soldier on guard, but as he is relieved every two hours, it could not be the property of them all. Still, he remained for several days together, except at brief intervals, when, I suppose, it was needful to seek refreshment. At last, I inquired of the sentry if he knew whether the dog had a master in the regiment.

'No, sir,' replied he; 'but I'm thinking he wants to enlist. Dogs often come to us in this way.'

Whether that particular candidate for a military course of life had his wish gratified, I cannot say, for I lost sight of him. There are also instances of dogs which quit the service of a private owner, and enter that of the public, of their own free-will and accord.

A soldier's wife once appealed to an officer for the price of a shoulder of mutton, which she said his dog had stolen from her. 'I assure you, my good woman,' replied he, 'that dog has never once been in my quarters for the last six months, nor has he taken the least notice of me. He was well fed, and comfortably lodged; but as he prefers to be on his own hook, I really cannot be answerable for such a vagabond's doings.' This was literally true. For the sake of liberty, the animal chose rather to put up with a precarious kind of living among the children, or the chance of a feast, now and then, by predatory means, than submit to the restraint of confinement, to which it would have been to a certain extent subjected by its owner. By way of extenuation, however, let me say, it was currently reported, that instead of claiming the value of a shoulder of mutton, it should have been the 'remains' of one, and no great loss either, it was generally believed.

When the 'Spankers' were in the Crimea—they were light dragoons in those days, and not hussars, as at present—a large dog, I don't exactly know of what breed, but universally admired for beauty and intelligence, attached himself to that particular corps. Wherever the regiment marched, he invariably accompanied the troopers. Several times he went into action, and was once seriously wounded with the point of a lance. It would have been universally regretted had poor Luffin's wound proved fatal. One of the farriers undertook to dress it, so that, with a little care, he soon got well again. Where the dog came from, or who was his original owner, nobody knew. He would never follow an individual soldier beyond the barrack gates, however kindly he might be invited; but when the men were in full dress, whether mounted or on foot, provided they went out in a body, Luffin insisted on taking up his proper position. One thing was very remarkable—he had sufficient discernment to enable him to distinguish a 'church parade' from any other. He never shewed any desire to attend public worship.

At the beginning of his military career, he had to pick up his living as best he could. He was accustomed at meal-times to go from hut to hut, or amongst the tents, when the men were under canvas. In some of these habitations he met with good treatment, and a supply of food; but from others he was not unfrequently summarily and ignominiously ejected. However, Luffin in course of time was allowed regular rations at the regimental expense, towards which all the members of a corps contributed a share, from the colonel to the drummer. The noble animal must have been aware of his promotion, for it was observed that he never went 'a-begging' after. One of Luffin's marks of high intelligence I cannot personally vouch for, but I have been assured of its truth. It was said, and generally believed, that he was in the constant habit of visiting the sentries during the night, especially in the Crimea, to see if the men were at their post, and on the alert. The reader must be told that, during a campaign, the troops are often so

much harassed and fatigued that sentries will occasionally fall asleep as they stand—an act, however, which is looked upon as one of the gravest of military offences. If Luffin found a man asleep, he sat before him in silence; but the slightest sound of approaching footsteps was sufficient to make him apprise the sleeper of the danger to which he was exposed. He would then trot off to the next post, where he scarcely halted if convinced that all was well. I am glad to be able to record the fact, that his faithful services, in due time, obtained for Luffin the respect of every member of the corps. It would have been a high misdemeanour to offer him any indignity.

Much that I have said in praise of Luffin may be properly applied to another Crimean hero called Jerry, belonging to the King's Royal Irish Hussars, whose services were estimated so highly, that a medal was bestowed upon him as a just reward, and invested with which, he afterwards ordinarily appeared in front of the regiment. When that gallant corps, on its return to Ireland, was publicly entertained by the citizens of Dublin, some doubt was expressed as to whether Jerry was eligible to become a guest; upon which the men declared, that unless their canine comrade made one of the party, they themselves would not put in an appearance. So, in the end, he shared the honour of a public banquet. Subsequently, this faithful animal went out to India, and accompanied the regiment through all the dangers of the great mutiny; but, during one of their marches, the poor fellow strayed into a jungle, and was never heard of afterwards.

Princess Charlotte of Wales's regiment had once a poodle whose hind-quarters were shaved once a week, and its whole body submitted to the process of being pipe-clayed, which gave the animal a clean and smart appearance. It seems, however, that the dog's particular attachment was to the band, with which it always marched, and was at all times on terms of amity with the white coats, especially the drummers, who were privileged to take all sorts of liberty in their treatment of him; at the same time, he would countenance no liberty whatever on the part of the red jackets, whether officers or men.

Many years since, the Princess of Wales's (Yorkshire) Hussars possessed a regimental dog which joined them at Ripon, and regularly marched to York for eight days' training, during which time he attended every drill and went daily to the field, where he charged in front of the squadrons with as much smartness as could be exhibited on the part of the best yeoman in that famous corps.

The gallant Welsh Fusiliers, as was noticed by us twelve months ago, are noted for a white goat which accompanies the regiment. The goat that was with the corps in Ashantee having there died, Her Majesty made a present of another animal of the same description. We may be sure the gift will be highly prized, and popularly appreciated in its military capacity.

The Queen's Own Hussars have a goat—or at least they had very recently—which curiously enough seemed to prefer the vicinity of the hospital to the barrack-yard. Billy, though a general favourite, was occasionally troublesome. For instance, in hot weather it is necessary that the doors of the barrack church should be left open for the benefit of ventilation. At such times he had a decided opinion that he should be allowed to join the congregation. Now, had he been quiet, there would have been no strong objection to his being indulged so far; instead, however, of behaving with decorum suited to the occasion, he would walk about on the wooden floor, which caused a considerable clatter. If by chance he came in the way of a trooper against whom he might have had a grievance, he would butt at him, causing thereby such disturbance as made it necessary for him to be forcibly ejected. Instead of taking such a rebuke, which was usually accompanied with sundry cuffs and blows, in a proper spirit, he would deliberately walk round to the officers' entrance, and go into the church again as coolly as if his previous manners had been most praiseworthy.

'Orderly,' said the adjutant at the close of the service, 'see that the goat is shut up on a Sunday morning for the future.'

'Yes, sir,' was the reply.

'It's my opinion,' said one of the men, when the parade was dismissed, 'that Billy attracted more attention than the chaplain.'

'I could hardly keep my countenance,' observed another.

On one occasion, Billy attended the funeral of a soldier belonging to the regiment, with the band, who played the *Dead March*, and a firing-party, to discharge three volleys over the grave of the deceased at the close of the burial service. There, in strong contrast with his behaviour at church, it was quite affecting to observe how serious he was in manner and deportment. He seemed to take an intense interest in the whole proceeding, and walked to the edge of the grave, into which he peered for some time, as if pondering on the common end of mortality. Billy was a genuine volunteer. He followed the regiment of his own accord whilst on the march through an Indian village, and continued on the route for some hundreds of miles. Embarking with the troops when they left for home, he has never deserted the regiment from that hour to this.

During the Crimean war, a goat was sent to the 8th Hussars, for the purpose of being slaughtered, and served out as rations to the men. They however preferred to be on short commons for the day, in order that the animal's life might be spared; and under the circumstances we can readily conceive that, as it was a gentle, playful creature, great care and good treatment were bestowed upon it by all hands. It came with the troops to England, and remained with the depot during the absence of the regiment in India, lived to witness its return, and is with it, I believe, to the present hour.

A battalion of the Rifle Brigade had formerly a pair of beautiful gazelles, which I have frequently seen at Windsor marching in front of the band with perfect military precision of step. They looked quite proud of their position, for they carried their heads as erect as any smart young

subaltern could do, and affected, like him, to be unobservant of any passing admiration. The ready manner in which they went through their duty, in the absence of the slightest restraint, shews how kindly they must have taken to the service.

The 7th Hussars, on their last return from India, brought with them a fine antelope, which, though faithfully attached to military life, I am sorry to say did not manifest a very amiable disposition towards society in general. Whilst he never molested a soldier in uniform, he would sometimes make attacks on civilians and even officers belonging to the regiment, when in plain clothes. I never heard that he committed any serious injury. The climate of England was unfavourable to his constitution. When last I saw him he frequented the ante-room of the mess-quarters, in order to bask in front of the fire. Our winters were too cold for our Indian-bred friend, and so, to the sorrow of the regiment, he fell a victim to consumption.

Elephants have a decided liking for military life. Various regiments whilst serving in the East have had such an animal, which often rendered good service to corps to which he might be attached. The King's Rangers at one time were in possession of a fine male of enormous size, which for many years was never once absent from parade. As soon as the bugles sounded he would walk majestically to the place of muster, and take up his position at the right of the column. If the mahout or driver presented himself, the elephant would lift him on to his shoulders by means of his trunk, and evidently without the slightest effort to himself; but, if left to his own unaided intelligence, he obeyed the ordinary words of command without ever making a mistake, such as : 'Right face,' 'March,' 'Mark time,' 'Halt.' He insisted at all times on giving help to the men whenever they were engaged in loading or unloading baggage, and was evidently pleased to be allowed to make himself generally useful. When the wagons were impeded on the march, as it not unfrequently happened, Jock was duly sensible of his own importance, for by his enormous strength he would push a heavy load up a steep declivity, which six or eight oxen failed to do without his assistance.

It happened that the Rangers were suddenly ordered to embark for India, and there was no accommodation for taking Jock on shipboard. To the great disappointment of the men, the authorities decided that he should be left in India. He was however permitted to accompany the regiment as far as the quay, to watch the troops as they went on board, many of whom had a parting word of kindness for their old comrade. 'Good-bye, old man'—'Poor old Jock'—were repeated with many variations, both by officers and men. Meanwhile the animal watched the proceedings with great apparent interest, as if wondering when his own turn would come to go on board. But when the vessel steamed off and left him ashore, he became frantic with rage and disappointment. It had been proposed that he should be transferred to another corps, but he most persistently refused to have anything to do with it. Neither the coaxing nor the threats of his mahout were of any avail. Though he had previously manifested the gentlest disposition, he now threateningly withheld all kindly advances on the part of his would-be comrades, and at length, so savage did he become, that it was deemed expedient to place him in con-

finement. Even the mahout himself was several times placed in a very awkward predicament, and on one occasion barely escaped with his life. No means could be found to assuage the grief or to calm the anger of this faithful creature, who so constantly mourned the loss of his friends. But in little less than two years the Rangers came back to their old quarters, and were informed of the melancholy change which had come over their old comrade.

'No go near—no touch, sahib ; he strike hard,' said the mahout ; 'he kill.'

'Why, Jock, my boy,' said a young officer, formerly one of his special friends, 'why, what's the matter ?'

The animal pricked up his ears, and instantly recognised the voice, which was proved by his manifesting unmistakable signs and sounds of joy. It was quite affecting to see, when once more he was permitted freely to repair to the parade-ground, with what kindly recognition he embraced many of his companions, placing his trunk tenderly on their neck and shoulders. I need hardly say he was at once reinstated in his old regimental post, the duties of which he recommenced to discharge, as if no interruption had taken place.

The most singular creature I ever knew was a bear, a special pet amongst the 'Jolly Birds.' It was excellent fun to see him at play with the band boys, who would often get into his kennel, and keep him outside by means of a shutter, which slid up and down, whilst some of their companions would dodge about, as if joining with him in the game of 'hide-and-seek.' With some of the men, he would stand on his hinder feet, and pretend to box or wrestle, but all in good part, for, considering that he was really a bear, he was remarkably good-tempered. One night after watch-setting he managed to slip the staple from the post which held him fast, and wandered at large about the square, dragging his chain after him.

It happened at the same time that some recruiting sergeants were quartered in the same barracks. One of these came in with a pass at half-past eleven o'clock, that is to say, he had permission to stay out until that hour. He had been 'beating up' recruits for the service, so no one took any notice of his being slightly intoxicated. He was admitted at the gate, surrendered his pass to the sergeant of the guard, bade the sentry good-night, and proceeded towards his quarters. Being an Irishman, he had as rich a brogue as could be desired. He had not gone far before he came to an instant halt, and cried : 'Who goes there ?' A dark figure was seen, like that of a man crawling on all-fours in the distance. 'Spake !' shouted the sergeant, 'or — I wouldn't mind if I'd my rifle and a ball cartridge in it. Spake, I tell ye, or I'll fire !'

Suddenly, the figure stood erect but a few yards from him, and displayed an appearance which, to his imagination, seemed like that of a mysterious personage from another sphere.

'That,' said he afterwards, 'was a freshener for me. It put out the fire of drink in my brain just all at once. But sorra, sorra ! I thought it was my end that was a-coming. If, sis I, I took Pat O'Conlin's backey, I'll restore it to 'im in the mornin' wid an ounce more for the use of it.'

During this time, he had been dodging 'the foul fiend,' as he called it, along the piazzas, and

cutting round the columns, to elude pursuit from the enemy.

The animal at length seized him, and gave him some ugly grips, at which he shouted 'Murder!' at the pitch of his voice.

Fortunately, a sentry, who had been accustomed to the animal, came at that moment to the rescue, to the great relief of his Irish comrade. He was not so much hurt as one might expect. His sides by his own account were very sore, but he went about his work the next day, when there was a good deal of amusement at his expense.

'Have you returned O'Conlin his baccey?' demanded a comrade.

'Indeed, I haven't, sir; for, when I came to think of it, I remembered I never took it at all!'

WALTER'S WORD.

CHAPTER XXXIII.—BRIGAND DISCIPLINE.

IT is only the old to whom 'the clouds return after the rain,' to whom misfortune is but the prelude to misfortune, and no sunshine illumines the interval; with the young, the sun is always shining, ready to take advantage of the passing cloud, or to pierce through its less heavy folds, even as it intervenes. Within one hour of Corrali's departure, Walter Litton had his sketch-book out, and was pencilling the picturesque surroundings of his prison, not without some sense of pleasure in the employment. Curiously enough, the brigands had robbed him of nothing, but only convinced themselves that he carried no weapons of offence. He knew that this forbearance was not usual with them, that, in ordinary cases, his watch and chain would have at once been added to the profuse adornments of his captors' persons; and that this had not been done, gave him additional disquiet, for it shewed that Corrali & Co. were bent upon some great *coup*, in which all minor considerations were merged, as of no account. That this project could not be connected with himself alone, was certain; for even if the amount which the chief had set his ransom at could be forthcoming, it was but a small sum, as ransoms went; and, indeed, that would have been only another reason why they would have taken all they could. He had an idea, too, that, considering their slender expectations from his capture, he had been treated with unusual tenderness and consideration. However, now that he was at work with his pencil, all these reflections were in abeyance; he was only thinking what a fine model Colletta would have made in Beech Street, where he could not have shifted his position three times a minute, as he was now doing, as he leaned up against a pine tree and watched the gamblers. He was a magnificent fellow, with a long pointed beard, and, except for an expression of interest now lighting up his soft black eyes, as the gold clinked, might have been elder brother to Francisco. He was by far the tallest of the band, and probably, except Corbara, the most physically powerful; but he had a delicate skin, and that was why he kept rubbing himself, as cattle do, and I believe for a similar reason, against the pine. It would have been a satisfaction to Walter, had he not been in their immediate neighbourhood, to reflect that all these scoundrels were overrun with fleas, and worse.

'It is wonderful!' said a musical voice (redolent of garlic) beside him; 'I have seen nothing like it since I beheld the altar-piece at Termini.'

The speaker was Santoro, who, peering over his shoulder, was regarding his little sketch with a look of intense admiration. Walter did not think very much of provincial altar-pieces in Sicily (judging from what he had seen of those in its metropolis), but this natural incense was acceptable, nevertheless.

'It would be better worth your attention if your friend would stand still,' said Walter, smiling. 'Why does he not join the game, like the others?'

'We are forbidden—he and I—to do so.'

'Oh, I see; and fear I should give you the slip.'

'Yes, signor; you see' (this apologetically) 'one is obliged to obey orders. Would it be asking too much, when you have done with Colletta, if you would do a picture of me?'

'By all means,' answered Walter good-naturedly. 'Never mind Colletta; if you will stand quiet, or, better still, sit down, I will do it at once.'

'I must trouble the signor to sit down also,' replied the other hesitatingly. 'You see, one is obliged—'

His sense of duty, struggling with the desire to conciliate, was most amusing to behold; nor did it escape Walter's quick eye, that, in taking up his position, the brigand took care to present his face in profile, so that the scar which disfigured one half of it was scarcely to be discerned.

'This portrait is for your lady-love, I presume?' said Walter.

'Yes, signor; for Lavocca,' answered the other, in grave low tones, and with an uneasy glance over his shoulder at his companions.

'And who is Lavocca?' asked Walter, not so much from curiosity, as to secure a good sitting; he had now guessed the reason of Santoro's exceptional reserve and silence—for when they were not absolutely menaced with danger, the brigands, as a rule, were as noisy as boys just let loose from school; this gentleman was consumed by the tender passion.

'Lavocca is the attendant of Joanna, signor, and her dearest friend.'

'And who—Hold your head a little less stiffly, my good fellow.' Here the thought struck Walter, that the last person whom his pencil had sketched—alas, how different, and under what different circumstances!—was Lilian, and somehow the reflection made him feel a kindness for this poor sufferer, charged with the task of shooting him, if he ran a yard, and yet, who had tender hopes of his own, with perhaps as slender chances of their fulfilment as himself. 'And who is Joanna?'

Santoro opened his dark eyes to their full stretch. The question was evidently as extraordinary to him as though some benighted being, on hearing mention of the pope, had inquired: 'And who is the pope?'

'Joanna—surely the signor must have heard—is the captain's sister: the handsomest woman I ever saw—see one; but—Here he threw his hands up, instead of finishing the sentence.

'Ah, with a devil of a temper, I suppose?' said Walter. 'Some handsome women are troubled in that way.'

His tone was careless, but in reality he had become greatly interested; for, from what Francisco had told him about this woman, it was probable

that Lilian herself might at this moment be in her custody.

'Temper, yes. Why, the captain himself is at times afraid of her. How Lavocca can put up with it, astonishes me; but she says her mistress has a good heart; indeed, she is both kind and generous; and there is no doubt that she has been cruelly tried. When one is young, and things go hard with one, that makes the blood run wrong for the rest of one's life, you see.'

'It is too likely, Santoro. But would you mind telling me her story?'

'Lavocca's story, signor?' inquired the other with simplicity, and a blush upon his dishonest cheek.

'No, no; I would not venture to be so inquisitive. I wish to hear about Joanna, and this captain of yours, of whom everybody knows the history, it seems, but myself.'

'Well, the captain—though you would never imagine it from his grand airs—was at one time but a poor farm-servant. Much intercourse with gentlemen such as yourself, and even great milords, who have been his guests from time to time, as well as his own high position—here the brigand drew himself up, as though he too, if not the rose (which, in the literal sense, he was most certainly not), was near the rose—'have made him what he is; but at nineteen he was just a farmer's boy, such as one may meet any day in the fields down yonder, except that he had a noble soul.'

'That is a fine thing to have,' observed Walter dryly.

'True, signor; it makes one independent of everything: a man who possesses it is a king, and knows himself equal to kings. Whereupon, it came about that Rocco Corrali fell in love with his master's daughter. He was not to blame for that, you will allow; if he had been of the same rank, nobody would have blamed him; but as it was, complexities arose. The brothers of the girl fell upon him with their knives, and left him for dead.'

'What! merely for being smitten by their sister's charms? Is it not possible that they may have led him into some imprudence?'

'Perhaps,' returned Santoro, with a judicial air; 'it must be confessed that that has been said. His body was taken into the church, to be left till morning; but in the night he revived, and dragged himself to the mountains, where there were some fine fellows like ourselves, who received him gladly. Among us, there is a field for merit, and the best man is nearly certain to come uppermost.'

'Corbara, for example,' said Walter slyly. 'Do you think yourself a worse man than Corbara, or less fit to govern? I am quite sure Lavocca does not.'

'Well, well; of course, everything is not perfect even up in the mountains! Please Heaven, Corbara will be shot some day, and it will be better for such as you, signor, when it happens.'

'Corbara is a brute, I suppose?' observed Walter carelessly.

'Yes, indeed; or if he is a man, he has no heart. He would always rather have blood than ransom. As for me, I have no cause to love him, since I owe him this,' and he touched the scar that furrowed his left cheek from eye to chin. 'It was a fair fight enough—we had a duel—but then one can't forget such things.'

'And yet you must obey him, or men like him,' said Walter softly, 'and be a witness to his vile brutalities. Now, supposing it were possible that I could procure your pardon, as well as fill your pockets—'

'It is useless, signor,' interrupted the other coldly; 'such propositions have been made to me before to-day. You are about to propose some scheme of escape.'

'No, indeed; I have no such intention: I merely wished to know if the opportunity of living another sort of life—with Lavocca—should offer itself to you—'

'It never will, it never can.—Thousand devils! why should we talk of such matters!' broke in the brigand impatiently. 'We were speaking of Corrali. Well, in course of time he became captain of the band. It was not in that year, nor in the next, but however long it was, he had not forgotten upon the mountain what had happened down yonder. One Sunday morning, when the folks were all in the village church in which he had been left for dead, he descended with his men, and surrounded it. The congregation were made to file before him. Two of the brothers of Carmina (that was the girl's name) were among them; those he slew with his own hand, and three others who had crouched behind the altar were shot down. Then he went to the house of his old master, and stabbed him to the heart; and carried off the girl with him into the mountains.'

'What an infernal monster!' ejaculated Walter.

The brigand shrugged his shoulders. 'It was unfortunate that the family were so numerous, but it was necessary to be revenged. However, Carmina never took to him, in consequence of what he had done; and after a few months—it is sad to think of it, considering how fond they had once been of one another—he shot her, in a fit of exasperation.'

It was with difficulty that Walter restrained himself from expressing his abhorrence not only of this narration, but of the narrator himself, who could speak of such things with such calmness and indifference; but he made no comment beyond a gesture of disgust. 'And what is the story of Joanna?' inquired he.

'Well, Joanna's case was, as it were, the reverse of Carmina's; she, too, was in farm-service, and solicited by her master's son, whose affection she did not return. Some say she stabbed him, but Lavocca, whom I believe before anybody, denies that it was so. It was more probably the captain that did it, whom Joanna had informed of her persecutions. At all events, she joined the band, and Lavocca, who was her inseparable companion, did likewise. They did not come, you must understand, signor, as women mostly do, who take of their own free-will to our mountain life, after their lovers.'

'I see. Joanna could not well have come without Lavocca, who, to keep her company, sacrificed her own prospects "down yonder"—Walter had already fallen into the brigand habit of describing all scenes of civilised life by those two words. 'It is no wonder that she is Joanna's friend.'

'Indeed, she has a right to be so considered, signor, even though Joanna is a great lady. Talk of merit. There is a woman for you! She can shoot and swim, run like a deer, cook like an angel, and is withal so beautiful! Should anything happen

to Corrali, I, for one, should range myself under her command—not this one's, and he jerked his finger contemptuously towards Corbara, who was still shrieking curses against his ill-luck.

'And notwithstanding all these accomplishments,' inquired Walter, 'is Joanna womanly and tender towards those persons who fall into her brother's hands?'

'Well, she has an eye for a handsome fellow, it is said, whether he be bond or free,' answered Santoro, laughing; 'but that is what men are sure to say in any case.'

Whether this man had wilfully misunderstood his question, being unwilling to give Joanna the cruel character she might deserve, or whether any other sort of tenderness than that he referred to was altogether out of Santoro's consideration, Walter could not determine. The information he had received was indeed but vague and general, but with that, for the present, he thought it prudent to be content. To exhibit curiosity was, in brigands' eyes, Francisco had once told him, to be plotting, and though Santoro seemed friendly disposed he had a stolid sense of professional duty, and it would be dangerous to excite his suspicions. 'If Joanna likes handsome men, Santoro, you give her this,' said Walter gravely, handing his companion the little portrait which he had now finished.

The delight of Santoro at this counterfeit presentation of himself, as he probably considered it, though it must be confessed Walter had taken care to flatter him, was extreme, and could only be likened to that of a savage who first sees himself in a mirror: his expressions of admiration were so loud that they attracted not only his mate Colletta, but the gamblers themselves, who came crowding about him, like children at a peep-show.

'Wonderful! 'Fine! 'Excellent! ' One would have thought that no one had sketched the human figure since Michael Angelo's time.

'What is all this about?' broke in the rough tones of Corbara. He plucked the portrait from the hand of its original, and made as though he would have torn it in pieces.

'Stop!' cried Santoro in a voice shrill with passion; his musket, fortunately for his foe, was not within reach, but his hand sought the knife in his girdle. The next minute, a blow from the lieutenant's pistol-stock levelled him, stunned and bleeding, to the ground. If the onslaught had been less violent, and Santoro had been able to take his own part in the matter, it is possible that he might have gained the victory over his superior, for the feelings of the great majority of the band were clearly with him. They had even supplemented, as it were, his 'Stop!' with several cries expressive of disapprobation at Corbara's meditated act of vandalism. But now that the man was down who might have proved their ringleader, authority was paramount, and neither tongue nor finger stirred in rebellion against it. Only Colletta quietly brought a handful of half-melted snow, and, kneeling down beside his fallen comrade, proceeded to wipe the blood from his unconscious face. Nevertheless, it seemed to strike the bull-necked lieutenant that discipline had been sufficiently vindicated, and that even some sort of apology might be expected of him.

'This rubbish here,' said he, still holding the sketch in his left hand, 'is either worthless or

dangerous. If it resembles the man, it is clear that it may be used to identify him, should this English dog ever gain his liberty. Would it be for your advantage if he took a portrait of every one of you, and stuck them up in Palermo, so that the soldiers should know you wherever you moved? If, on the other hand, it is not like him, it is of no value to any one.'

The logic might have been incontrovertible, but it waked no sound of approbation; for the fact was, that every one of the party had been privately bent on getting his own portrait done in the same style.

'What you suggest might have had some sense, Corbara,' observed Walter boldly, 'had I intended to keep the sketch for myself; but I had given it to Santoro, and am willing to do the same for any one else who has a fancy for having his portrait taken, and a mistress to whom to send it.'

He rightly guessed that it was a point of honour with these gentry that each should suppose himself, or at least have it supposed, that he was the object of some young woman's devotion; but in this case he had unconsciously hit a particular nail on the head, and sent it home. It was well known among the band that the lieutenant was an unsuccessful suitor for Lavocca's affections; and Walter's speech at once suggested to them that Corbara's wish to destroy the picture, as well as his subsequent arguments, had arisen from jealousy; a passion in regard to which they themselves were as tinder to flame, but which amused them, when manifested in another, beyond everything.

'Come, come, lieutenant,' said one, 'what the signor says is reasonable enough; we need only shew the pictures to whom we like—and who like us.'

'Yes, and when shall we have such another chance?' pleaded another. 'It is not as though we could go into the towns, and get our pictures taken by the sun for half a ducat, like those who live down yonder.'

Walter did not trouble himself to listen to these arguments, or to the lieutenant's reply to them; he had found it hard enough to give the man the few civil words which he had bestowed upon him, with that spectacle of his brutality—the prostrate form of the unlucky Santoro—before his eyes. Now, he had knelt down by the side of Colletta, and was assisting him in his simple ministrations to the wounded man. His impulse had been to spring at Corbara's throat, and do him such mischief as a moment's fury could effect; but he had mastered it, and wisely. It would have been a Quixotic act indeed to bring death upon himself (for Corbara would to a certainty have killed him), and perhaps fail in saving others, because one rogue was brutal and unjust to another. Still, Santoro had been friendly towards him, and he was not going to withhold the hand of sympathy from him, for fear of this insolent bully. As it happened, therefore, it was upon Walter's pitying face that the eyes of the poor brigand first opened upon his regaining consciousness.

'The picture! ' murmured he. 'Where is the picture for Lavocca?'

'You shall have it, or another,' said Walter comfortably.—'Have you brandy?' inquired he of Canelli, whom the condition of the wounded man appeared to interest, not from tenderness of heart, but because blood had a natural attraction for him. 'It will be the best medicine for your friend.'

'I have a little,' returned the juvenile homicide stolidly—'about as much as I want for myself. He shall have a drain of it, however, if you will draw my picture.'

So it seemed that Lieutenant Corbara had taken off his embargo upon art, and had graciously permitted his men to sit to Walter.

This permission was of no slight advantage to the prisoner, both immediate and remote, for not only did it put him on amiable terms with his patrons, but when the hour for the mid-day meal arrived, and with it only loaves of black bread, without even the raccolta of the previous evening, he found *his* loaf had been filled by some grateful hand with pieces of broiled kid. It was a contribution, Colletta whispered to him, from his sitters generally, but of which he was to say nothing, because of Corbara, who would otherwise have deprived him of it; and he enjoyed it hugely, and none the less because he gave a share of it to Santoro. The poor fellow was little the worse for his maltreatment—the blow had fortunately fallen upon his skull—and seemed in no way to resent it. Punishment under authority, as Walter had more than one occasion to observe, was not looked upon as an indignity among brigands, though they were quick enough to avenge an insult.

After dinner, the disadvantages of open-air life became very perceptible, in the shape of a driving rain, from which, in their elevated situation, there was but little shelter. It was intensely cold, and yet the brigands dared light no fire, for fear of announcing the position of the camp to the soldiers. Nothing was to be done but for all (save the sentinels) to wrap themselves up in their capotes, and huddle together as close as sheep frightened by a dog. His companions, accustomed to sleep in the daytime, and move at night, soon forgot their discomforts in slumber; but Walter was not so fortunate. He lay for hours listening to the sough of the wind, the swish of the rain, and had, as it seemed to him, only just fallen asleep, when a kick on the leg awoke him, accompanied by a rough order to 'get up.' It was fine overhead, though by no means clear, and the moon was rising, by the light of which—though the manner of his summons would have sufficiently established the man's identity—he perceived Corbara, his musket slung over his shoulder, and evidently prepared for departure.

'Santoro,' said this worthy, in tones that he endeavoured to make conciliatory, 'you are still an invalid, it seems' (and indeed the poor fellow, with his broken head, bandaged with a napkin, through which much blood had flowed, looked by no means able-bodied); 'so you will be excused from your attendance on the prisoner, and command in camp in my absence. Canelli will take your place upon the march.'

'Pardon me, lieutenant,' answered he firmly; 'I am quite well now, and have received my orders direct from the captain; and I mean to obey them. Strike me again'—for Corbara was already feeling for his pistol, the barrel of which seemed as familiar to his fingers as the trigger doubtless was—'and you will have to settle with him the Who-shall-be-Master question *a second time*.'

Even by that dim light, Walter could see the lieutenant turn yellow with rage: the allusion was evidently a very bitter one, and yet one which he dared not resent.

'I shall have a word or two to say to the captain about you, my fine fellow,' was his sole rejoinder.

'Just so; that is one of the reasons why I intend to accompany you, lieutenant. It is only right he should hear both sides.'

'I believe you to be half a traitor,' answered Corbara fiercely. 'You are quite unfit to be trusted with the care of a prisoner, you who receive gifts at his hands, and make yourself his friend. You require some one to look after *you*, and Canelli shall do it.'

At these words, the young recruit stepped up, gun in hand, with a malevolent grin, and stationed himself on Santoro's left. It was an indignity, as Walter could perceive, which touched his old body-guard to the quick, who, next to Corbara, was the senior member of the band; but he said nothing. About a dozen brigands had been selected for the expedition, the rest remaining in camp. At the word 'March!' given in quite a military style, they set out; but there was not much marching, in the ordinary sense. The ground did not even permit of a foot-pace; it was so steep that they had to run, except where the brushwood was so thick that they could make way through it with difficulty. Their course was eastward, but also, as Walter fancied, towards the sea. Under the circumstances, some straggling was absolutely necessary, and but that Canelli kept always close behind, and within striking distance of him, it would have been easy, with Santoro's connivance, to have made his escape. In any case, however, as he judged, this connivance he would not have obtained. That Santoro detested his present leader, and was burning with indignation against him, was probable enough; nay, even that he was favourably disposed towards his prisoner; but, nevertheless, Walter felt that, had he made an effort to flee, this man would have drawn trigger on him as quickly as any of his fellows, nay, perhaps all the quicker, because his fidelity had been called in question. That he was correct in this opinion, was shewn by a trifling circumstance. After they had gone a mile or two, they crossed a small stream, at which every one stooped to drink, for streams are rare in Sicily, and they had had nothing hitherto to quench their thirst, save melted snow. Walter took the opportunity to wash his hands and face, which he had not done for twenty-four hours: his delay was not of half a minute's duration, yet the purpose of it being misconstrued (and perhaps unintelligible, for brigands never wash), it almost cost him his life. 'Get on, or I shoot!' cried Santoro, in a voice from which all friendliness had given way to a certain fierce ring of duty; and this was accompanied by the ominous click of three guns. Walter made some laughing remonstrance, and though the incident dashed certain vague hopes he had begun to cherish, did not permit it to interrupt his amiable relations with Santoro. Nor did the latter appear to treat it otherwise than as a matter of official routine, such as no person holding a commission from Il Capitano Corrallo could have dispensed with.

'Can you guess, signor,' said he, in a low voice, when they chanced to be crossing what was, by contrast, a piece of level ground, 'why the lieutenant was so civil just now as to make me his deputy in his absence, if I would have accepted the honour?'

'To make up, I suppose, for his brutal attack upon you yesterday.'

'No, no, signor ; he is not one to eat his words nor to repent his deeds. He wished to keep me from seeing Lavocca. He wanted to have her all to himself.'

'So we are going to join the ladies, are we ?' inquired Walter, with a carelessness that he could ill assume. The thought that he was about to behold Lilian, filled him with a wild delight, in spite of the sad circumstances under which their meeting must needs take place.

'Yes, I am sure of it. I saw that Corbara had put his rings on.'

This statement was quite unintelligible to Walter, and an accession of speed on the part of his companions—for they used level ground as though it were a race-course—prevented any explanation. Presently, however, a halt was made for refreshment, and then he saw Santoro produce from his pockets a number of little tin boxes, containing various articles of jewellery, with which he proceeded with much gravity to adorn his person ; just as a serious young man with us puts on his go-to-meeting coat, and makes his face to shine with yellow soap, before he goes a-courting. Walter guessed, from these preparations, that they were near the termination of their journey ; but, for the rest of the way, the party moved much more slowly, and with exceeding vigilance. They had now got 'down yonder,' where honest people were to be found (in moderate numbers), and even people whose mission it was to put down brigands : a large and fertile valley, through which ran a high-road, that they crossed with the most elaborate precautions, sending scouts to left and right, and then flitting athwart it with the swiftness and silence of a shadow. Here was another mountain to be climbed, not so steep as that whose summit they had lately occupied, but much more wooded and difficult ; and ever and anon they stopped, as if in doubt, and as though the place was new to them. At these times, it seemed to Walter that he could hear the soft murmur of the tideless Mediterranean ; but when he expressed that belief, Colletta jeered at it, and told him the coast was not within five leagues of them. Walter had by this time discovered, however, that, notwithstanding Captain Corrali was so exacting from his captives in the way of truth, this was the very last commodity to be expected from the members of his band : they lied to their prisoners, they lied to one another, and if they gave themselves any trouble to prove to their own minds that they had any justification for their mode of life, they most unquestionably lied to themselves ; therefore, Walter stuck to his opinion as respected his pro-pinquity to the sea. It somehow pleased him to think that it was so. To be taken inland, was to be removed farther from the hope of escape, and, as it seemed to him, from the neighbourhood of Lilian. He conjectured that it would have been impossible for the brigands to have carried her very far from the coast, and the course of the present expedition had corroborated that conviction. The dawn had now broken, fair and calm, yet so woody was the mountain on whose slope they were, that it seemed still dusk. Again and again, Corbara put his fingers to his lips, and whistled the brigand note, and waited for a reply in vain. But at last he was answered. Sweet and

low, the kissing call stole down from the summit of the mountain, so mellowed by distance, and rendered so harmonious by time and place, that Walter hardly recognised it for what it was.

VISIT TO GARIBALDI.

In the course of last summer, when GARIBALDI was living in his home at Caprera, a small island lying off the northern part of Sardinia, he was visited by a Scottish lady, accompanied by her husband, Rev. Robert Wallace, in the course of a tour through Italy. The lady having given an account of her visit in a letter to her father, we have been favoured with a copy, which will be perused with a certain degree of interest. The letter is dated from Rome, 11th May 1874.

Our visit to Caprera was the great event in our Italian tour. Last Wednesday, we started from Rome for Civita Vecchia, whence we sailed the same day at 2 P.M. by the mail steamer for Madalena, where we arrived on Thursday at half-past 4 A.M., after a pleasant voyage. At Madalena Hotel we breakfasted, and at eight we hired a small boat to Caprera, where we arrived at nine. There was a slight rain, but the sea was fortunately calm. We sent one of the boatmen with the three letters of introduction first, and waited his return from the house, which was about a quarter of an hour's walk from the coast. When the man came back with the message of welcome, we all set off for the house, which is seen at a great distance from the steamer. General Garibaldi's secretary, Signor Basso, a good-looking intelligent man, received us cordially, and shewed us into the dining-room. He conversed with me in French, and informed me that the general was in bed, suffering acutely from rheumatism, and had been confined thus for some time, but that he would see us. You may imagine how grieved I was. Meantime I learned that his son Minotti and his wife were in Rome, Ricciotti in London, and his daughter Teresa with her husband, Signor Canzio, at Palermo.

Signor Basso said he had lived with the general for thirty years, and had accompanied him in all his campaigns, and was one of those who bore him on his shoulders from the battle-heights of Aspromonte, opposite Messina, when he was unfortunately wounded, as also Minotti. During the general's visit to London, he resided with him at Stafford House (the Duke of Sutherland's), and spoke of his enthusiastic reception there, which quite turned his own head, as well as that of the Londoners. The general himself, he said, felt it keenly, and his love and admiration for the English and Scotch are unbounded. After sitting nearly half an hour, the secretary signified we could now see the general, and shewed us into his bedroom, which was across the entrance-hall, vis-à-vis to the dining-room. My feelings can be better imagined than described when I entered the presence of the great liberator and hero—the Wallace of Italy. He lay to the left on entering, close by the door, his head slightly propped up with pillows, and looking ill and pale. Notwithstanding the simple and unostentatious surroundings, there was a dignity in his very simplicity most touching ; and his countenance is the handsomest I ever saw, especially in the beauty of his eyes, which are very striking, with a kindness of

expression most attractive, evincing great benevolence, and an intense love of the human race, for the freedom of whom he has truly sacrificed his all. There was also a fascination in his very voice, which was soft and pleasing. My heart was at my mouth when I approached him, and on his holding out his hand, which was doubled up with rheumatism, I kissed it, which his deep humility would scarcely permit. He then introduced me to his wife, who appeared to be a very amiable and agreeable lady; and indeed such was the case, for during our visit she did all in her power to make us comfortable. I never experienced anywhere such kindness and attention.

"After some conversation, the general remarked to me: "You are English." I said Scotch. "Oh," he replied, "I am very fond of the Scotch, of whom I have many warm friends, especially in Glasgow; and you must remember me kindly to your father, Mr M'Adam, and Mr M'Tear, and all my friends in Glasgow, and in Scotland, who remember me." I said we regretted he had not gone to Scotland when he was in London. He replied it was also a great disappointment to himself; but various circumstances had prevented it. I said I trusted he would yet honour us with his presence, and should he visit Glasgow, he was to make your house his home. "That is indeed kind," he added, "and I shall certainly see your father if there." He then spoke kindly again of Mr M'Adam and Mr M'Tear.

"General Garibaldi's house is the only one on the island. Around it are olive, fig, and orange trees, and outside the window of the general's bedroom are lemon-trees thick with fruit, which, on remarking, he sent his little girl to bring me some. She brought in three lemons, which I shall keep as a memento. Mr Wallace, on the spur of the moment, gave her a five-franc note, but her father decidedly told her not to take it. Turning to Mr Wallace, he said: "You see I have got your namesake, Sir William Wallace, above my head." It was a simple engraving of the Scottish hero in his helmet. In the course of conversation, Mr Wallace said he looked as if he was in the prime of life, and were it not for the rheumatism, he might be going about active and vigorous. "I am sixty-seven," he replied, "and as it is, I am obliged, when out of doors, to be wheeled about in a perambulator." There was a very neat one in the entrance-hall. Mr Wallace then remarked that he saw occasionally notes from him in the newspapers, and trusted soon to learn from some of them of his perfect recovery. "Oh!" he said, "I am like an old ship, obliged to go in for repairs occasionally, to prop it up, and inform the journals accordingly." I alluded to what he had done for Italy and liberty, and though not recompensed here, a far higher reward than aught earthly awaited him above. I then spoke of being acquainted with some of his faithful adherents whom I had met both in Italy and Sicily, who had shared his toils and battles; he replied: "I have known so many in my career I cannot recall them individually. I am a cosmopolite, devoted to liberty everywhere." The general then spoke of Caprera and how much he liked it. The island is the wildest-looking place I ever beheld. It is of considerable size, but one mass of rugged rocks and huge boulders, with wild shrubs, just now covered with a most beautiful white blossom,

issuing from almost every crevice. A few patches of ground near the house serve as pasture for his cattle, about eight or ten in all. There is also fine white horse, probably one of his favourite chargers, two donkeys, a few goats, two pointer dogs, and a great number of hens. All the animals are well fed and carefully attended to. Although Caprera is wild, there is a grandeur about its rocky heights, and it commands a fine view of the islands surrounding it, especially from the terrace of the room we had the privilege of occupying.

The general lost a very lovely girl when he was in France at the late war. Her name was Rosa, and her death caused him great grief. She is interred in the olive garden, on a little rising ground, and a very handsome monument in pure white marble is erected to her memory. In front of the tombstone, which is high, is an exquisite marble sarcophagus of large size, where, I could not help thinking, the general would one day lie. The rest is paved with tiles, very chaste; and flowers adorn the whole, which is inclosed by an iron railing. The whole was sent from Nice; no doubt a present from a friend.

Many a pilgrimage may yet be made to it, as the resting-place of the hero, which I trust may be far distant. Fearing to fatigue the invalid, we made this interview as short as possible, which was kept up in French and English; in French chiefly, as he said he knew that language better. He seemed pleased when I told him you envied my visit to him. On ascertaining that we had our carpet-bag with us, he invited us to stay, with many apologies that it was not as he would like it to be for us in point of comfort. I said the honour of being under his roof was enough for me. A very fine liqueur, something like noyau, was presented to us at his request; and after we had been shewn to our bedroom, Signora Garibaldi returned with a bottle of old cognac, a plate of fine dates, and a crystal jar of Caprera honey from the general. I then said to her that I had brought a coral scarf-pin from Naples, which, being so trifling, I had not courage to present it to the general in person. She admired it exceedingly, and hastened to give it to him; came back and told us how much pleased he was, and it was so beautiful. I begged her not to mind us, but to remain with her husband, to whom she is so devoted, as we could amuse ourselves by taking his advice and perambulating Caprera. Accordingly, we walked about for some time; and between one and two o'clock, Signora Garibaldi came and invited us to dinner. It was indeed a substantial repast. Besides the viands, there were on the dining-table two very large bottles full of the finest wine, the same on the side-table; gifts, we were told, from friends. The party consisted of Signora, her daughter, her two brothers, Signor Bassi, Mr Wallace, and myself. Signor Bassi remarked that this was their daily routine, and that when the Duke of Sutherland visited Garibaldi, which he did occasionally, he sat down with them in the same primitive fashion. I remarked, I would rather partake of bread and water at the board of such a man, than be at the table of luxuries where there was no heart, and where pride and ambition reigned. We again strolled to Rosa's tomb; and in the evening another entertainment awaited us, which we were unequal to after such a dinner. Signora Garibaldi asked us to accept of a little cheese of Caprera, also one of the general's

Garibaldian costumes ; both of which I politely declined, when she laughingly threw it over me. Signor Basso said, much as we liked their cheese, it was not to be compared to the Cheshire cheese, which the general, as well as himself, was so fond of.

'On entering the dining-room next morning there was a large fire of wood, which made it very cheerful, especially as there was a cold east wind blowing outside, and an excellent tea-breakfast awaiting us, by the general's orders, as the English, he said, "did not take wine in the morning." On the table also, cold roast-beef, fowl, poached and boiled eggs—enough for a dozen ; such kindness, such unbounded hospitality, as if enough could not be done for us. Wine was also pressed upon us, but declined. After breakfast, all the party, except the general and his secretary, had a walk to the olive ground and the tomb ; and then the boatmen arrived from Madalena, to take us back as soon as we were ready, as the wind was so high and the sea so boisterous, that if we waited till mid-day, as the general had appointed, it would be impossible for a small boat to go across.

The general again sent for us, and on our entering the room, what was my delight to see him so much better that he could sit up in bed. He gave us a cordial welcome, and had put on his Garibaldian costume, a kind of black and white checked woollen garment. It is like a long broad scarf, with a slit in the centre to put the head through, letting it hang loosely down round the person. A very beautiful velvet smoking-cap with rich gold embroidery adorned his head, and, to my intense pleasure, my coral pin was fastened in front; a most graceful delicate compliment to me. I pointed to it, thanking him for accepting it, and the honour he conferred on me by wearing it. He said : "It is very beautiful, and I shall remember you all my life, and wear it for your sake." How proud and happy I felt then ! Mr Wallace and I were struck with his handsome face and noble appearance. Like myself, Mr Wallace thinks it is the finest countenance he ever saw. At my request, the general presented me with his photograph and his name written on it, saying : "This is the last one I possess ;" and Signora gave me one of her little girl, and one of Rosa in her bier, with herself sadly looking on her dead child. The general again repeated all his kind messages to you, to Mr M'Tear, and Mr M'Adam, and then bade adieu, I again kissing the hand of the great liberator. I once more thanked him for his great hospitalities, and Signora's extreme kindness and attention to us, and he replied saying : "My wife desires me to say how delighted she is to have made your acquaintance."

The sea was so frightfully rough, that instead of going to the village of Madalena, the three boatmen rowed to the nearest point across, about a mile, and we walked to the hotel, from two to three miles. The same steamer that we went by returned from Sardinia in the afternoon, and at six p.m. we sailed, arriving in Civita Vecchia at half-past eight next morning, after a most boisterous passage.

All our friends in Rome are surprised at our courage in visiting the abode of this greatest of men, but it has given me a pleasure and satisfaction utterly indescribable. To have touched the hand that has opened prison doors, trodden down

tyranny, made the tyrant king and his minions flee, leaving him master of the field in Naples, where he had but a handful of adherents, placing Victor Emmanuel on the throne of a united kingdom where he himself might have continued dictator, was alone sufficient to have made one proud of the honour. Added to all this, freedom of thought and religious toleration were among the grand results of his mighty deeds. He who might have possessed royal palaces and treasures, sacrificed his all for the love of liberty alone, living a life of obscurity in his humble island home, with no other reward than the homage of his nation, and of all who know his worth, his noble heroism, and self-devotion. No wonder I rejoiced at grasping the hand of such a deliverer, and listened to the voice that proclaimed liberty to a trampled-down nation, and raised it to the dignity of freedom and enlightenment ! What a lesson it teaches of noble self-sacrifice and divine humility ! I do hope you will yet see him and have him as a guest under your roof.

I may mention that in our bedroom, which formed part of the wing of the house, were many English books, Shakspere among the rest, all of them presents. Several pictures were hanging in the various rooms, chiefly connected with his own eventful career.

Of the photograph you may remember giving me of "Garibaldi being carried off the Field of Aspromonte," he has two copies left, one of which Signora offered to me, but I told her I had already got one from you.

"I think I have now given you all the details of this most interesting visit, and I shall only add my apology for the length of the letter."

LANCASHIRE RECREATIONS.

CONCLUDING ARTICLE.

Of all athletic displays, the collier-sportsman—for with him we are now chiefly concerned—dearly loves a wrestling-match, or, as he in his vernacular styles it, 'a wrestle ;' and from this trait in his character, the uninitiated might perchance draw favourable inferences as to the manliness of his disposition. Such inferences would nevertheless be hasty, and altogether unwarranted by facts. True it is that the collier loves wrestling ; but it is not of the manly and, we may say, scientific character that is to be witnessed in some parts of England.

As a rule, the Lancashire wrestler is a rough among roughs. With, perhaps, the exception of a dog-race, nothing attracts the collier so powerfully as a wrestling-match, which few can have any idea of. The scene is one of the inclosures already described ; the situation, the outskirts of a populous town, a few miles distant from Manchester ; the occasion, a match between Bob Stubbs, alias Stiffun, of Hindley, and Jem Bullock, otherwise Jumping Jem, of Gladwick, who have signed articles to wrestle the best of three back-falls, Lancashire fashion, catch as catch can, at seven score seven pounds weight (the wrestler always reckons his weight by the score), for fifty pounds a side. The Wellington Grounds—the scene of action—in their

principal features, nearly resemble the Royal Retreat we have so recently quitted, and the general description of the one may be equally applied to both. The occasion is important; for, in addition to the fifty-pound stake, the wrestlers are to contend for the middle-weights' Champion Challenge Cup, presented by the proprietor of the Wellington Grounds, and now in the keeping of the Stiffun, who thus bears the proud title of champion. The number of spectators is consequently large—upwards of two thousand—for the most part 'coalers,' with a sprinkling of factory operatives and mechanics, and—dare we write it!—a few young women, sweethearts, doubtless, of some of the colliers present. Strange as it may appear, here they are. Quite at home they seem among the roaring crowd; and very gay they look in their holiday attire, though we should fail to recognise them, were we to see them next week working at the pit mouth in semi-masculine dress of trousers and petticoats reaching only to the knee. The 'rough' element decidedly prevails in the throng, which is not of so composite a character as the crowd at the Royal Retreat, and, as already intimated, consists mostly of colliers. Dogs innumerable are here; and here, as a thing of course, are the bookmakers, in the full exercise of their unhallowed vocation.

We have arrived in the very nick of time, for, see! the wrestlers are already in the ring, and the contest will begin almost immediately. And now, while the principals are receiving the final touches at the hands of their seconds, let us say a few words anent the sport. The object of the Lancashire wrestler is to place his antagonist on his back, and in this style of contest no throw may be counted unless *both* shoulders of the fallen man fairly touch the ground. To achieve this, the desired end, almost any means and nearly any kind of rough usage are permissible; so that, to the uninitiated spectator, a display of this sort seems to be a mere pulling and hauling match, in which there is little visible science, but much gross violation of established rules of fair-play and manly forbearance.

But now all eyes are turned towards the ring, and, their preparations finished, the heroes of the hour step forward to begin the strife. As the holder of the cup, Stubbs is the favourite, and the shouts of seven to four on him are many and loud. While they come forward, divest of all attire but socks and a scanty covering for the loins, we have time for a rapid survey of the personal characteristics of the wrestlers. The men are much alike. Of sturdy build, below rather than above the middle height, with powerful limbs and swelling muscles, each has a massive neck, a bullet-head—the light hair on which is cropped as short as scissors may cut it—and features of a low intellectual type, with heavy jowl and mean forehead.

Advancing each from his corner to the middle of the ring, they cross hands slightly, in token of amity, and at once get to work, feinting and dodging for a favourable opportunity to close. The Stiffun takes the initiative, and after several ineffectual attempts to seize his antagonist by the thighs, grapples with him, when, after a brief struggle, both come to the ground.

Bullock falls undermost, but, quick as thought, rolls over on his breast, while the Stiffun, bestriding his prostrate form, strains and heaves in efforts

to turn him on his back. In vain, however, does he strive; Jumping Jem resists every attempt; and although his face is pressed forcibly into the muddy grass, and his naked body is bleeding from abrasions and scratches, inflicted by the rude hands of the energetic Stiffun, he resists successfully. Foiled in his endeavours, Stubbs now essays to drag his man bodily backwards; but no sooner has he raised the Jumper to his knees, than the latter, with a sudden twist, breaks the hold, and leaps to his feet. Again the pair close; again they come to earth with the same result as before; and again they writh and struggle, minute after minute, in the mud, greeted with shouts, cheers, derisive yells, and execrations—for the collier is fertile in expletive. Time after time, the Stiffun, by dint of strenuous exertion, all but turns his opponent over; and time after time, the Jumper wriggles back, and again lies prone on his face. At length, gripping the thigh of the prostrate Bullock with one powerful hand, and with the other arm thrown around the neck in no gentle embrace, the Stiffun, putting forth a gigantic effort, partially raises his fallen foe, and twists him fairly over. The wrestlers now retire to their corners, pitiable objects.

'Time' is soon called, and again the men face each other in the middle of the ring. Betting is now two to one on Stubbs, whose supporters are exultant; while the partisans of the Jumper are somewhat depressed, and not quite so noisily demonstrative as heretofore. Again the wrestlers grapple, and again go down to writh and grovel on the muddy field. Presently, Stubbs, the more skilful as well as the more powerful of the twain, seizes the luckless Jumper in a terrible gripe, known to the initiated as the Full Nelson. After nearly twenty minutes' severe exertion, the Stiffun, fixing his man in a position from which there is no possible extrication, forces him on his back, and rises the winner of the match, and holder of the Champion Challenge Cup for another term of months. With rugs thrown over their scratched, bruised, and soil-begrimed bodies, the wrestlers retire from the scene of action; the spectators straightway fall to wrangling and fighting over their losses and gains; and the great match between Bob Stubbs and Jumping Jem becomes a thing of the past.

What! more sport? Certainly, for we are now to 'assist' at a dog-race; and the colliers—having, by virtue of many oaths, much personal and abusive language, and sundry passages of arms, in which the clog plays a prominent part, at length come to amicable arrangements of their differences over the wrestling-match—are already turning their attention to speculation on the forthcoming event.

Dockum's black and white dog Cripple, of Royton, and Fogg's white dog Tippler, of Oldham, are going to run two hundred yards for twenty pounds a side; and even now, half-a-dozen rough-looking fellows are hastening up the 'sprint'-track, over which the race will come off, accompanied by the contending animals. There is the usual betting, for a dog-race offers as good a medium for speculation as any other event; and, to a thorough-paced gambler like the Lancashire rough, it is a matter of indifference whether he risks his money on a man, a horse, a dog, or the turn of a coin. Meanwhile, the party

has reached the starting-post, where the dogs are stripped of their clothing, and placed on the mark, each held by a man, who kneels on the track, grasping his charge by the neck and tail. Two hundred yards away, down the path, the referee has already placed himself at the winning-post, indicated by a line drawn across the cinder track; and in front of the dogs stand their owners, each holding a white cloth, to induce his animal to follow when the pistol is fired. All is now in readiness: the starter, watch in hand, steps to the rear, while the runners-up hurry down the course, trailing their cloths, and shouting and whistling, to attract the dogs. One, two, three, four, five, six, seven, eight, nine, ten seconds, counts the starter; bang! goes the pistol, and the straining dogs are released by the slippers. The roughs behind the palings madly shout and yell; the dogs, straining at the leashes, bark, whine, yelp, and howl, adding their quota to the infernal din that breaks forth as the contending animals flash past. The runners-up, as they near the winning-post, turn and urge on the rapidly approaching dogs with discordant cries; a chorus of voices, 'Th' white un! th' white un wins!' and Tippler shoots across the line past the referee, winner by a bare yard; and the race is over. More wrangling, abusive language, and appeals to arms, follow the referee's decision; and, in the midst of the turmoil and uproar, we leave the Wellington Grounds, disgusted with the scenes we have witnessed within its walls.

Besides his matches, the conduct of which we have endeavoured to depict, the rough has his handicaps, foot and dog, and at the latter he comes out in his strongest force. Of all this we say nothing. Enough has been told to shew the coarseness and depravity which prevail in the lower order of Lancashire recreations. The picture is so revolting, that we have ventured to speak of it, only with the view of drawing attention to a social condition which ought not to exist in England, and against which all moral agencies should be brought. Knowing that such a condition of things is tolerated—without, as far as we know, incurring reproof or obstruction—who can feel surprise at the terrible cases of kicking, wife-beating, and other deeds of personal violence which are constantly falling under the cognisance of the police in the thickly populated parts of Lancashire!

WHAT WE EAT.

WHEN the original grasses, which we call corn, were reclaimed from a wild state, and made to furnish daily bread to successive generations, can but be matter of conjecture. In exploring the prehistoric Lake Dwellings of Switzerland, we find that their former masters, even those of the Stone Age, possessed wheat, barley, and millet. South of Lapland, no island or mountain tract in Europe has been found of which the natives were unable to grow a meagre store of oats, rye, and the coarser varieties of barley. To give an exhaustive history of bread alone, a bulky volume would be required. Very gradually, for five centuries past, has wheat supplanted, in the west and centre of Europe, the inferior grains which, with pulse (introduced from the East during the Crusades), nourished the bulk of the population; in the middle ages, or in

what may be styled the transition times of the Tudor and Stuart reigns, the quality of the bread consumed was a fair test of social standing. The delicate manchets, made of fine flour, often bolted, and of snowy purity, were for countesses and dames of high degree. At the table of some mighty merchant or potent woolstapler were white loaves. Prentice and journeyman had to be satisfied with wholesome brown bread, into which entered an admixture of barley. The crust of rural Hodge was of rye, or of rye mixed with red wheat or barley.

Even in feudal days, local inequalities prevailed to an extent which in some districts seemed almost to level the distinctions of rank. Contrary to present practice, England south of Trent fared better than the northern counties. There was porridge in Cumberland, but there was frumenty in more fertile Somerset. The Kentish franklin could afford to feed his sturdy hinds on wheaten bread and corned beef, while the family of a Derbyshire farmer were content with oat-cake and butter-milk. The fenny shires to the east derived a real benefit from the great flocks of wild-fowl, swans and cranes, ducks and geese, snared and smoked for winter provision; and the dwellers on the outskirts of the royal forests were believed not to be ignorant of the taste of venison. Fish, and eels in especial, were held in high esteem, as eking out the meagre supply of fresh animal food obtainable at a time when houses were victualled with salt meat, as ships are now, and when horned stock and sheep could not profitably be kept alive during winter.

Within recollection, there was a growing dearth of bread, which told heavily on the less affluent classes. The population was increasing beyond the capacity of the corn-growing lands. Grain and flour were imported only under heavy duties, with a view to protect the interests of native producers, on the ground that such protection would be beneficial to the nations at large—in other words, it would be an excellent thing to raise the price of bread for the benefit of a comparatively few individuals. Thanks to the energy displayed by free-traders (who have never been properly thanked), the iniquitous exclusion of foreign grain was abolished, and now bread-stuffs to the value of about seventy millions sterling are introduced free of duty annually. The plain meaning of this is, that but for free-trade in corn, the price of the four-pound loaf would, instead of sixpence or sevenpence, be at least two shillings—perhaps more, for the gold discoveries in Australia and America have greatly tended to raise the prices of all articles in general consumption. The strangest fact of all is, that the lands producing food in Great Britain, so far from being ruined by free importation, bring higher rents than ever. What a triumph for the principle of free-trade in corn! We have had nothing to match this within the memory of the living generation. Just look at the immense change that has latterly taken place in the food of the

English peasantry. Rye-bread and pease-pudding exchanged for wheaten loaves. A startling change, but not greatly different from what has occurred in France, where, with the abuses of the Bourbon rule, an end was also put to the semi-starvation of French tillers of the soil. Black bread is now almost as much a rarity in France as it is on our side of the Channel; while barley in Wales, oats in Scotland, and the potato in Ireland, are no longer the food-staples that they were.

To Asia, and probably to India, where wild chickens yet abound under the designation of jungle-fowl, we owe our domestic poultry. The distribution of this useful bird is indeed strangely irregular. Throughout the negro kingdoms of West Africa, for instance, fowls are plentiful, while in more civilised Abyssinia and Arabia, they are comparatively scarce. Persia abounds in poultry; while in Turkey, few domestic birds, except the sacred pigeon, are to be seen. To Asia, too, belong the fallow-deer and the gorgeous peacock, while to her, also, we owe all our vegetables, with the brilliant exception of the potato. It is difficult to conceive the poverty, so far as vegetables were concerned, of the England that passed under the sway of Norman and Angevin kings. Some hardy varieties of the cabbage did indeed exist, and were supplemented by long-forgotten herbs, which have since been deemed only suited to the rabbit-hutch. The peas and beans brought in by returning Crusaders were presently eked out by carrots; but down to the reign of Elizabeth, the garden yielded little tribute to the kitchen. A 'corrody,' or life-pension in a convent, such as was so often purchased for superannuated gentlewomen, or quiet elderly persons of either sex, before the dissolution of the monasteries, gave the right to a diet which appears to us to have been painfully monotonous. Those platters of beef and carrots, that white loaf, those diurnal tankards of single ale, were repeated again and again, winter and summer, through long years. The Friday fast, which entailed the substitution of 'pottage,' and of fish from the river or the abbey stew-ponds, must have been a welcome change from the wearisome sameness of roast-meat and boiled roots. The great question then was, how to insure a sufficiency of food, and quantity was more considered than quality by the providers of the feast.

A free breakfast-table of Elizabeth's time, or even during the more recent reign of Charles II., would contrast oddly with our modern morning meal. There were meats, hot and cold; beef, and brawn, and boar's head, the venison pastry, and the Wardon pie of west-country pears. There was hot bread, too, and sundry cakes which would now be strange to our eyes. But to wash down these substantial viands, there was little save ale. The most delicate lady could procure no more suitable beverage than the blood of John Barleycorn. The most fretful invalid had to be content with a mug of small-beer, stirred up with a sprig of rosemary. Wine, hippocras, and metheglin, were potations for supper-time, not for breakfast, and beer reigned supreme. None but home productions figured on the board of our ancestors. Not for them were seas traversed, or tropical shores

visited, as for us. Yemén and Ceylon, Assam and Kathay, Cuba and Peru, did not send daily tribute to their tables, and the very names of tea and coffee, of cocoa and chocolate, were to them unknown. The dethronement of ale, subsequent on the introduction of these eastern products, is one of the most marked events which have severed the social life of the present day from that of the past.

Many dishes of old renown have long since been utterly discarded among us. It is probable, indeed, that no one ever enjoyed the leather-like flesh of the peacock, although the beauty of that royal bird's plumage rendered him a central ornament at princely banquets. But the swan was unquestionably an especial favourite, and it may be added that the supply was incomparably greater than it could possibly be in our own age. The well-watered Britain of Plantagenet times must have boasted of merees and rivers white with swans, to judge by the numbers that figured at every notable feast. The wild boar, too, is gone, and the tall deer are too few to allow venison still to be a valuable auxiliary to butcher-meat. But of game, other than wild-fowl and such aquatic birds as the snipe and woodcock, which were easy to snare, our forefathers made little use, for the simple reason, that they found it no easy matter, with bow, arblast, or the clumsy saphaunce, to bring down the partridge or to slay the hare. Somewhat of this state of things survived until the alteration in the old laws which prohibited the sale of game. There must be many yet alive who can remember when a hare was charged in hotel bills under the quaint name of a 'lion,' and when partridges were vended as 'feathers.' Game thus illegally bought and sold was at that time artificially scarce and dear.

We have little cause to envy those who went before us the raw material of their over-plenteous banquets. Our beef is certainly far superior to any that ever smoked on a medieval board, our poultry better than the best of their capons, our fish more fresh, our fruit and vegetables finer, than theirs. It is probable, however, that their mutton, at least in an upland district, where thyme and crisp herbages were the nourishment of the mountain flock, was sweeter, if leaner, than ours can well be. But, as a rule, our markets are better supplied, and from a far wider range, than were those of our predecessors, with whom winter, despite the merry-making at Yule-tide, was but a dreary season of privation, during which the ailing or the weakly were cut off from many comforts which are now reckoned as the merest necessities of life.

In one respect, we are decidedly worse off than our remote progenitors. The rise and progress of adulteration has attained to dimensions so prodigious as almost to take rank among the industrial arts. Doubtless, at all periods, there were rogues who dipped their prehensile fingers over-deeply into their neighbours' pockets. The vintners of three centuries since were as roundly rated for their limed sack and ropy ale as are the licensed victuallers of to-day for the sophistication of their beer and strong waters. But such groceries as there were, the flat cakes of sugar from Cyprus, the saffron, the spices, bought from turbaned traders, the candles of yellowish wax, the oil squeezed from the olives of Provence or Italy, were pure enough. The wine was in nearly the same

condition as when the butt was shipped at Bordeaux or Cadiz, and if a few gallons of water had been added to the original contents of the cask, at anyrate drugs, cider, and ardent spirits were not systematically mingled with the honest grape-juice. As it is, the gigantic expansion of trade has not proved an unmixed blessing. Some articles, in a state of absolute purity, cannot be procured, even by experts indifferent to cost or trouble. Others have been so habitually falsified, that the sham product has come to seem to us more genuine than the real one would do. Where health is not weakened, or life endangered, we can perhaps afford to view such practices with a tolerant disapproval; but it appears hard that not food alone, but medicines also, should be by custom largely mixed with inferior ingredients.

It has somewhat ingenuously been surmised that the national skill in the difficult art of cookery is in an inverse ratio to the excellence of the viands in any given country. Thus, the stringy mutton and lean beef of France have been held to have called forth the inventive powers of her matchless cooks; while the merits of our own meat are held responsible for the slovenly fashion in which our dinners are dressed. The theory, however, reposes on too narrow a basis of facts, since in Greece, Spain, and Southern Italy, the inferiority of the raw materials has by no means stimulated the adaptive powers of the native professors of the culinary science.

Nothing can be more laudable and natural than the desire to reap a legitimate profit from the introduction of animal food, cheaply produced on South American savannahs, or on the boundless plains of Australia, into crowded countries like ours. If ice, or the more potent aid of freezing mixtures, if antiseptics or packing *in vacuo*, will enable Buenos Ayres and Sydney to undersell the graziers of the United Kingdom, the great mass of consumers will be directly benefited by the success of the experiment. It has for some time been evident that the cheap and easy expedients by which American lobsters and salmon were tinned for the European market, would not answer for the supply of antipodean meat. To win public confidence, it is necessary that entire joints, or, perhaps, quarters of sheep and oxen, should be imported in an uncooked condition, and in a sufficiently attractive state to please the eye, often more fastidious than the palate. The difficulties which have hitherto supervened are not greater than those which have impeded the completion of nearly every novel undertaking, and the scheme itself is one which assuredly meets a great and growing want of this our epoch, when the flesh-consuming classes are so largely recruited by those who once lived on a lower diet.

One thing is certain. However the demand for preserved provisions may increase, the tinned products of America and Australasia will always be rejected by those to whom the higher cost of home-grown and fresh animal food is a matter of slight moment. No skill in packing, and no promptness of transit, would render the lean beef from the Pampas, or the wiry limbs of Australian sheep, comparable to West Highland sirloins and spare-ribs, or to mutton fed on the South-down ranges, and sold with what is technically called 'the bloom' upon its plump surface. Whoever would reform the dietary of a nation, must reckon

on coming into collision with prejudices, all the harder to conquer, doubtless, when, as in this instance, they happen to rest on a substratum of fact.

THE MONTH: SCIENCE AND ARTS.

EVER since ventilation was first talked and written about, it has been a more or less obscure and uncertain subject; a subject on which it was easier to shew what ought to be than what could be. We have, therefore, the more satisfaction in calling attention to a paper by Dr François de Chaumont, of the Army Medical School, Netley, which lays down definite principles of ventilation, and will enable any observant person to decide whether a building is properly ventilated or not. The paper in question—'On the Theory of Ventilation: an attempt to establish a positive basis for the calculation of the amount of Fresh Air required for an inhabited Air-space'—was read at a meeting of the Royal Society, and has been published in their *Proceedings*, and is thus available to all who desire to make use of it.

The basis taken by Dr François de Chaumont is 'the evidence of the senses,' but with 'proper care and precautions.' The poison in impure air, he remarks, is organic matter, either suspended or in the form of vapour; and it is this poison which imparts to air that disagreeable quality commonly described as 'close.' This closeness can be remedied only by diluting the confined air with a quantity of fresh air, and to determine this quantity is one of the steps in a theory of ventilation. Observation shews that the 'amount of organic impurity bears a fairly regular proportion to the amount of carbonic acid evolved by the inhabitant in an air-space. This being accepted, and general diffusion being admitted, we can easily calculate the amount of fresh air required to bring down the carbonic acid to some fixed standard. If, now,' continues the doctor, 'we adopt as our standard the point at which there is no sensible difference between the air of an inhabited space and the external air, and agree that this shall be determined by the effects on the sense of smell, our next step is to ascertain from experiment what is the average amount of carbonic acid in such an air-space, from which we can then calculate the amount of air required to keep it in that condition. But as the sense of smell is very quickly dulled, each air-space to be examined ought to be entered directly from the open air.'

By observations in hospitals and barracks in different parts of the country, Dr François de Chaumont has arrived at conclusions, and obtained data on which to base his theory. Under the several heads: Fresh—fair—not close—close—very close—extremely close, he records his observations in a way which will enable any one interested in the subject to test them for himself. The conditions laid down in the paper as 'the standard of good ventilation' are, that the temperature should never be very much below sixty degrees—Vapour ought not to exceed 4·7 grains per cubic foot, at a temperature of sixty-three degrees, or 5·0 grains at a temperature of sixty-five degrees—Humidity (per cent.) ought not to exceed seventy-three to seventy-five—Carbonic acid: respiratory impurity ought not to exceed 0·0002 per foot, or 0·2000 per thousand volumes. Another point established by this

inquiry is that, where disease prevails, more fresh air is required than in health ; hence, hospitals demand more pure air than barracks.

As Mr F. J. Bramwell said in his annual address to the Institution of Mechanical Engineers : Do we in our applications of power make as much use of wind, water, and waves as we ought, remembering that their power may be transmitted to a distance ? 'Do we,' he asks, 'resort to any large extent to sources of power in nature other than coal? Is it not the fact that mechanical invention has gone back in these matters rather than forward? And do we utilise that primary source of power, the heat of the sun—the current heat from year to year—making the most of barren hillsides, as it seems to me we might do, by planting quick-growing trees, which, fostered and matured by the sun, would yield large quantities of wood to be used as fuel for domestic purposes? Are we estimating at their full value the deposits of peat, and are we not tempted to pass by this large store of fuel, because its use is attended with difficulties? Is it not true that we use coal in the most grossly wasteful manner? How much of the fuel goes up the chimneys of our furnaces unconsumed, in the form of visible carbon, or in the worse, because less readily detected form of invisible carbonic oxide?' In the face of such faults and errors, Mr Bramwell argues that it is the duty of mechanical engineers, 'by precept, practice, and example, to do all that lies in their power to cause all to respect and understand the value of that which they have too long lightly treated and grossly abused.'

At the Bute Docks, Cardiff, the machinery for lifting out ballast and putting in coal is so efficient, that it is now not uncommon for a steam-collier of fifteen hundred tons to enter the basin at high-water of one day, discharge her ballast, take in her cargo of coal, and leave at high-water the following day, the entire operation having lasted less than twenty-four hours.

Sir David Salomons has invented a method of signalling on railways which, as he believes, will prove effectual in preventing mistakes and accidents. Electric apparatus and bells are to be fitted on the engine and in the guard's van with inter-communications. A light continuous bar or rail, insulated through its whole length, is to be laid down between the rails, not to bear weight, but only that a light wheel connected with the engine may run upon it. This continuous bar may be connected with signalling-apparatus in all the stations; and thus while the electric wheel of the engine touches the bar, and connection is made with the electrical apparatus, signals can be sent from the engine to the stations, from stations to signal stands, and from one locomotive to another. Collisions, as Sir David states, could not happen, because when a train comes within a certain distance of another, either before or behind, a bell rings, and warns the engine-driver. From these particulars a general notion of the method may be formed; but it is difficult to understand without diagrams. A model is, however, in course of construction, which, when finished, will demonstrate the capabilities of the mechanism and of the method.

The oft-expressed wish, that glass would not break, seems about to be realised, for a manufacturer at Pont d'Ain has discovered a means by which glass can be made almost, though not quite malleable. It is to a peculiar method of annealing

that the increased strength is due, and the amount of strength may be judged of from the fact, that a pane of ordinary window-glass annealed by the new process remains unbroken when a five-franc piece falls on it from a height of six feet. Already, as we hear, a company has been formed to manufacture this new glass on a large scale.

We learn from the Utah journals that a measuring pillar, after the manner of the Nilometer, has been set up on the brink of the Great Salt Lake. This has long been wanted, for the rise and fall of the waters of that lake are extraordinary and mysterious, and physicists have often urged the erection of some means of recording the amount. The valley was first settled in 1847. During some years there were small fluctuations in the level of the lake; but from 1862 to 1863 the water rose twelve feet, and this increase, with occasional up-and-downs, it still maintains. For years the road to the salt-pans has been twelve feet under water, and an observer on the spot remarks, there seems to be 'an irrepressible determination of the waters to rise.' The mountain streams are steadily enlarging. The humidity of the atmosphere annually increases as the area of cultivation in the valleys becomes greater, and, as a consequence, the evaporation less. Tens of thousands of acres of farming, meadow, and pasture lands have been submerged along the eastern and northern shores of the lake. Many square miles of valuable lands as yet available and occupied by the farmer, skirting the lake, would be completely drowned, should the rise continue.'

Is the patient really dead or not? is at times a very anxious question. A medical practitioner of Cremona proposes a simple method by which the question may be answered with certainty. It is, to inject a drop or two of ammonia beneath the skin, when, if death be present, no effect, or next to none, is produced; but if there be life, then a red spot appears at the place of the injection. A test so easily applied as this should remove all apprehension of being buried alive.

It has been remarked that certain Tartar tribes who drink freely of *koumiss*, or fermented mare's milk, are free from that distressing malady, pulmonary phthisis. This fact has led to trial of the experiment whether the disease could be cured by doses of koumiss artificially prepared; and with a satisfactory result. The artificial koumiss, composed of ass's milk and cow's milk, is a lively sparkling beverage, not very palatable; but in three or four days the patients tolerate it, 'and then unequivocal signs of amelioration set in, the appetite returns, vomiting ceases, flesh is gained, and good sleep is enjoyed.' More on this subject may be found in the *Bulletin de Thérapeutique*, 1874.

A conclusion important to agriculturists has been worked out on a farm in New England, U. S., by Professor Storer. It is full of instruction for those sanguine cultivators who believe that anything can be done by manure. The farm in question belongs to an Institution founded for the promotion of agriculture; and the result of some years of trial is that the land 'has a certain natural but limited capacity to profit by the application of manure'—that, 'under the conditions which now obtain, the land is totally unfit for any system of high farming'—that, 'in order to be farmed with profit, it must necessarily be given over to some system of low farming, in which the expenditure

for labour, tillage, and fertilisers shall be small, and the crops proportionally light.'

On the other hand, a German agricultural chemist shews that where all the conditions are favourable, a 'normal crop,' as he calls it, may always be reckoned on. The favourable conditions, besides food, are standing-room, plenty of light, heat, air, and moisture. By attending to all these, Professor Hellriegel 'has succeeded in growing, year after year, upon a tolerably large scale, examples of the several grain crops, much larger, healthier, and more perfect in every respect, than have ever been met with in field-practice. He has been able, moreover, to produce at will plants of determinate size and weight, by varying the conditions aforesaid, though the supply of food (that is, fertilisers) was unchanged, and to obtain repeatedly the same results when operating under like conditions.' Readers interested in Professor Hellriegel's experiments will find an account of them in the *Chemischer Ackermann*, 1868, and subsequent years.

The supply of coal in the United States is enough for the whole world, which may be regarded as a comfortable prospect for posterity. And to that great coal-supply must be added the reservoirs of petroleum, from which enterprising Americans—sometimes not very honestly—put fortune into their own pockets. The extent of the oil-bearing region has not yet been ascertained; but it appears that in some places in Pennsylvania, lakes or rivers of petroleum exist at a depth of about eleven hundred feet. Bore a hole deep enough, and the oil flows out of itself. Some of the wells, as they are called, flow without interruption; others clog up, and must be swept out once a month. Among the wells in Armstrong County (Penn.), there is one that pours out gas in quantities so prodigious that they are reckoned as equivalent to one hundred tons of coal per week. Indeed, so powerful is the outrush of gas that it will lift the boring implement in the hole some twenty or thirty feet. This implement with the rope attached weighs two thousand pounds.

The working of deep coal-mines (mentioned in last Month, March) would appear to be facilitated by a method of raising coal by atmospheric pressure, which has been tried for some time in the Creuzot mining district in France. An air-tight iron tube is fitted from top to bottom within the shaft of the mine. In this tube a piston works. To this piston a cage is attached, in which the tubs of coal to be raised are placed. Air is then admitted beneath the piston, and it rises to the top with the coal; and at the same time more than seventy thousand cubic feet of foul air are discharged from the mine. Valves and doors are made in the tube for regulating the supply of air, and running the tubs in and out; and it will be understood that the same apparatus which raises and lowers the tubs will also raise and lower the miners. And we need scarcely point out that for each discharge of foul air from the mine, there is a corresponding rush of fresh air from the surface. The *Transactions* of the North of England Institute of Mining Engineers, vol. 23, contains full particulars of this important mechanism, with diagrams. It seems almost incredible that the long heavy ropes and the hauling machinery can be dispensed with.

The colonists on some parts of the western coast

of New Zealand have to contend with a formidable enemy—namely, drifting sand, which buries their fields, and converts fertile districts into a wild and trackless desert. Nothing stops it: fences, hedges, trees, are all alike swallowed. It was thought that the inroad might be arrested by building a fence across the sand itself; but the stream was observed to halt a few feet in front of the fence, then to pile itself slowly up, until it became higher than the fence, when the drift recommenced, and speedily buried everything in its course. Some of the settlers are now aware that endeavours to fix the sand must begin on the edge of the sea, and communications on the means to be adopted have been published in the *Transactions* of the New Zealand Institute, along with lists of plants known to be useful in preventing sand-drifts. That the drift can be staid has been abundantly proved on our own coasts, on the shores of the Netherlands, and particularly in the Gulf of Gascony, where thousands of acres of loose sand have been converted into excellent pasturage.

The colonists are asking another question—how to utilise the prodigious heaps of sawdust that accumulate round all their saw-mills. They would be grateful to any one who would shew them a process by which their waste dust might be converted into fuel, as readily as the Duke of Sutherland converts his peat-bogs into fuel for his steam-engines. On a late occasion, in an article on Waste Materials in this *Journal*, we mentioned that sawdust had been successfully employed at Edinburgh in the manufacture of 'fire-lighters'—articles for which there is an extensive household demand.

During the cruise of the *Challenger*, in August last, eleven natives of Api, who had been working a three years' term in Fiji, were conveyed gratuitously to their home. They were put on shore at Api; and Professor Wyville Thomson and some of the officers landed, but did not venture far from the boats, because of the menacing look of the natives, who were almost entirely naked, and bore a very savage and forbidding aspect. 'One of them,' says Professor Thomson, 'was manifestly greatly superior to the others, and appeared to exercise a considerable influence over them. He wore trousers, and a shirt, and a felt hat, and could speak English fairly. He recognised me at once as having seen me at the sugar-plantation in Queensland, where he had been for the usual three years' engagement, and shewed me, with great pride, a note from his former employer, saying that the bearer was anxious to return to his service, and that he would willingly pay his passage-money and all expenses in case of his being given a passage to Brisbane. I had been paying some attention to the South Sea labour question, and had formed a very strong opinion of the value to the inhabitants of these islands of the opportunity given them by this demand for labour, of testing their capacity to enter into and mix with the general current of working-men, and thereby possibly avoid extermination; and I was greatly pleased to see the result in this instance.' Some of our readers may feel interested in this incident, as an example of the favourable side of the labour question.